

Topic: TEXTILE AND CLOTHING

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FINISH AND COLOUR APPLICATION

Fabrics which reach the consumer are finished by one treatment or other. Except for the white fabrics, colour is applied to all the fabrics. “**A Finish is any treatment given to a fabric to change its appearance**”. The fabric can be finished so as to be smooth, shrink resistant, easy care, flame resistant, etc. Finishes can be divided into two types, general and functional.

General finishes or routine finishes are identified as mechanical, chemical or combination of the two. Durability or performance of the finish is considered, and fibers and fabrics usually receiving the treatment are identified, if there are special problems or types involved. In other words it is a basic procedure in preparing fabrics for consumer use. Example: Bleaching, Heat setting, Mercerization.

Functional finishes are those which alter, improve or change the behavior or service characteristics of the fabric and produce certain properties. Example: A durable press fabric, A waterproof fabric.

Scouring: Fabrics can be scoured by immersing them in 2- 4 percent of caustic soda (NaOH) with addition of wetting agents and emulsifiers under heat to remove waxes, foreign matter and discolouration.

Bleaching: Bleaching is done to fibers, yarns and fabrics to make them white or prepare them for dyeing and printing. It is a chemical finish where sodium chloride or hydrogen peroxide bleach is used to bleach the fabrics. The chemical for bleaching depends on the textile fiber. Cellulose fabrics such as cotton can be bleached with sodium hypochlorite whereas silk and wool respond well to hydrogen peroxide.

Calendaring (Pressing): Calendaring is also called pressing done on cotton, wool, silk as well as rayons. It is a mechanical process where the fabric is fed between flat, heated plates and pressed under heat and pressure. As for wool the fabric is fed between needle boards, which help retain the pile finish. Calendaring must be renewed after each laundering or cleaning.

Heat Setting: Mostly thermoplastic fibers are given heat-setting finish to produce fabrics which are wrinkle resistant, good elastic recovery, and give relative permanent design details

such as pleats, planned creases and surface embossing. The fibers are exposed to a certain temperature called the glass transition temperature (T_g temperature) where they are shaped. If at any later period the fabric is exposed to temperature higher than T_g temperature the fabric may take a new shape. So, fabrics should be laundered or dried under the T_g temperature.

Mercerization: Mercerization is a chemical finish mostly done on cotton fabrics. The fabric is immersed in 16-27 percent of sodium hydroxide and fed between rollers for a specific period of time. Then it is passed on a tentering frame to have specified dimensions. At last it is washed and dried. This process causes the fabric to have increased luster, improves dyeing characteristic and strength.

Sizing: Sizing is a process of stiffening materials to yarns or fabrics. Sizing is composed of starch or resin. Starch is applied mostly to cellulose fabrics to improve its luster and to add strength. Resin when applied reacts with the fiber molecules and chemical change occurs in the fiber. Starch is applied to the fabric which then passes between rollers that pad the starch into the fabric and remove excess solution. Thus, a fabric with additional stiffness and improved luster is obtained.

Tentering: Tentering is a mechanical finish where the fabric is held horizontally by each selvage between pins. There is a tenter frame which moves with a speed slightly higher than the speed with which the chains holding the fabric are moving. This process straightens the fabric which involves many finishing processes like mercerizing, resin finishing and drying.

Weighting: Weighting is a process applied to silk fabrics. After removal of gum (i.e.) degumming, the silk fabric, becomes very soft. To make the silk fabric heavy and stiff, the Federal Trade Commission ruled out that silk fabric can be given stiffness by addition of 10% stannous chloride a metallic salt. If this 10% exceeds very high the silk fabric tends to crack and split. Weighted silk has body and density but they are not durable and can be damaged by sunlight, air and perspiration.

Water proofing: Water proof finishes are those that prevent water entering the fabrics. These fabrics do not allow air also to enter and thus not suitable for wearing apparel. Earlier, **rubber, oxidized oil or varnish** were used to waterproof fabrics. Modern fabrics are coated with **synthetic** polymers